

REMARKS

The Examiner rejected claim 50 under 35 U.S.C. 112, first paragraph.

The Examiner rejected claims 44-49, 57-59 and 62-63 under 35 U.S.C. 103 as being unpatentable over US 5,880,524 to Xie in view of US 6,410,982 to Bownell et al.

The Examiner rejected claims 51-56 under 35 U.S.C. 103(a) as being unpatentable over Xie in view of Bownell et al. in further view of US 5,198,889 to Hisano.

The Examiner rejected claim 60 under 35 U.S.C. 103(a) as being unpatentable over Xie in view of Bownell et al. and in further view of US 5,097,387 to Griffith.

The Examiner rejected claim 61 under 35 U.S.C. 103(a) as being unpatentable over Xie in view of Bownell et al. and in further view of US 6,637,506 to Gektin. Applicants respectfully traverse the §112 first paragraph and §103(a) rejections with the following arguments.

35 USC § 112

The Examiner rejected claim 50 under 35 U.S.C §112, (first) paragraph stating "The original specification fails to disclose first region and second region having a same thickness." In response, Applicants note that FIGs. 4A and 8A of Applicants invention clearly shows a region 180A which is alternative structure to that of region 180 of FIGs 4A and 8A which is described as having a thickness the same as that of region 185. The Examiner is directed to page 13, lines 16 through 21, which states "FIG. 4A provides an alternative cross-section to thick region 180 of lower wall 135C (see FIG. 4). In FIG. 4A, wall thickness of region 180A is the same as in thin region 185 (see FIG. 4) but regions 180A are deflected toward thin components 105A (by stamping or molding) such that contact is maintained between thermal transfer medium 170 and thin components 105A while maintaining a thin wall."

Applicants, therefore contend claim 50 is allowable.

35 USC 103

The Examiner stated in his rejection of claims 44-49, 57-59 and 62-63 under 35 USC 103(a) in view of Xie in view of Brownell that Brownell supplies the element "said lid including a separate bottom wall positioned inside and sealed to inside surfaces of said peripheral sidewalls" missing from Xie and that the reason for combining references was "because it would have created the lid structure that dissipates heat as taught by Brownell in col. 1, lines 42-50."

First, Applicants respectfully point out that wall 103 is not separately formed from sidewalls 104 and 105 and thus cannot supply the element missing from Xie.

Second, Applicant note that Brownell col. 1 lines 42-50 is the summary of the invention of Brownell. As Applicants best understand the Examiner's statement, the Examiner appears to be saying that combining the invention of Xie with the invention of Brownell produces the invention of Brownell which has nothing to do with the element the Examiner alleges to be supplied by Brownell. Further the inventions of Xie and Brownell each already provide cooling so there is no need to combine references.

Therefore, Applicants maintain that the Examiner has not provided a proper reason to combine Xie with Brownell and claims 44-49, 57-59 and 62-63 are allowable. Since claims 45-63 depend from claim 44, Applicants maintain claims 50-56 and 60-62 are also allowable.

Applicants believe claim 44, overcomes the prior art rejection under 35 USC 103 as being unpatentable over Xie in view of Brownell in the following manners:

(1) Applicants claim "a separately formed peripheral lid support;" while Xie in FIG. 5 teaches the lid support 517 is integrally formed with cover 504 and in Brownell FIG. 1, it is clear that the lid support is integrally formed with all other portions of lid 500.

(2) Applicants claim "a peripheral sidewall of a lid, said peripheral sidewall integrally formed only with and around a periphery of a top wall of said lid," while in Xie FIG. 5, sidewalls of cover 504 are integrally formed with bottom 516 and the top 530 of cover 104 and Brownell in FIG. 1 teaches first and second walls 104 and 105 are integrally formed with both top wall 101 and bottom wall 103 of lid 100.

(3) Applicants claim "said lid including a separate bottom wall positioned inside and sealed to inside surfaces of said peripheral sidewall," while in Xie FIG. 5 and Brownell FIG. 1, the bottom wall is not separate from the rest of the lid.

Therefore, Applicants maintain that claim 44 is not unpatentable over Xie in view of Brownell and is in condition for allowance. Since claims 45-63 depend from claim 44, Applicants maintain that claims 45-63 are likewise in condition for allowance.

The Examiner stated in his rejection of claims 51-56 under 35 USC 103(a) in view of Xie in view of Brownell in view of Hisano that Hisano discloses "a supports 23, col. 36, within each chamber 23 having a vertical member or bellows extending from between the top wall 25 of lid and the bottom wall 27 of the lid" and that the reason for combining the references Xie and Brownello with Hisano was "because it would have provided a cooling apparatus for cooling the semiconductor devices as taught by Hisano in col. 1, lines 5-8."

Applicant notes that Hisano col. 1 lines 5-8 is the field of the invention of Hisano and indicates no elements of Hisano. This simply means that Hisano can be used to cool a semiconductor chip and is not a persuasive argument to modify the teaching of Xie in view of Brownell with that of Hisano. Further the inventions of Xie, Brownell and Hisano each already provide cooling so there is no need to combine references.

Therefore, Applicants maintain that the Examiner has not provided a proper reason to combine Xie, Brownell and Hisano and claims 51-56 are allowable.

Applicants believe claim 51, is not unpatentable over Xie in view of Brownell in view of Hisano in the following manner:

Applicants claim "said lid further including supports completely within said vapor chamber, each support having a vertical member extending completely between said top wall of said lid and said bottom wall of said lid," while FIG. 12 of Hisano shows the support extending past seal 27 so it is not "between said top wall of said lid and said bottom wall of said lid" and "completely within said vapor chamber" as Applicants claim 51 requires.

Applicants believe claim 52, is not unpatentable over Xie in view of Brownell in view of Hisano in the following manner:

Applicants claim "said supports are integrally formed with said top wall of said lid," while (1) the Examiner never stated Hisano supplied the elements of claim 52 missing from Xie in view of Brownell and (2) in Hisano FIG. 12, the supports 23 are not integrally formed with the top wall 25 of the lid.

Applicants believe claims 53 and 55 are not unpatentable over Xie in view of Brownell in view of Hisano in the following manner:

Applicants claim "said supports include through holes interconnecting said sub-chambers", while (1) the Examiner never stated Hisano supplied the elements of claims 53 and

55 missing from Xie in view of Brownell and (2) there appears to be no through holes taught in either Xie, Brownell or Hisano.

Applicants believe claim 54, is not unpatentable over Xie in view of Brownell in view of Hisano in the following manner:

(1) The Examiner never stated Hisano supplied the elements of claim 52 missing from Xie in view of Brownell.

(2) Applicants claim "said supports are integrally formed with said bottom wall of said lid," while in Hisano FIG. 12, the supports 23 are not integrally formed with the top wall 25 of said lid.

(3) Applicants claim "each bellows of said one or more bellows separate from said top and bottom wall and extending between an inner surface of said top wall and inner surface of said bottom wall within said vapor chamber," while Hisano in FIG. 29 shows the bellows 81a integral with the top wall 81 and defining the vapor chamber 60 rather than being inside the vapor chamber.

CONCLUSION

The Director is hereby authorized to charge and/or credit Deposit Account 09-0457.

Respectfully submitted,
FOR: Alcoe et al.

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